U N C L A S S I F I E D

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MONTHLY REPORT

NUMBER 8

19 JANUARY 1965 - 19 FEBRUARY 1965

LASER DISPLAY FEASIBILITY STUDY

Submitted by: [redacted] STAT

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in reply refer to:

February 19, 1965

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Subject: Laser Display Feasibility Study Monthly Status Report No. 8
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TECHNICAL PROGRAM STATUS

The Optical Scanner preliminary design effort was continued this month on an accelerated level. Functional block diagrams and schematic diagrams have evolved, and attention has been directed toward means of implementing each of the components.

In the particular configuration under consideration, a diffuser will have to be inserted into the optical system. This necessary addition is being examined to determine the resolution limitations and laser power requirements it imposes.

The three laser lines being considered are the 6328 Angstrom (red) helium-neon line and the 5145 Angstrom (green) and 4880 Angstrom (blue) argon lines. Chromaticity plots show that a large range of hues are possible with these three lines. The red and green wavelengths are located at near-optimum points on the chromaticity locus, but the blue line is at a slightly longer wavelength than actually needed. A blue line around 4600 to 4700 Angstroms would be closer to ideal. The effect of the longer wavelength blue presently available is a loss of hues in the magenta region.

The final report has been started. The first sections will be concerned with modulation and scanning techniques, lasers, conventional light sources, active screens, and passive screens. The last section will be a description of the conceptual design presently being studied.

ADMINISTRATIVE STATUS

The percentage of the total estimated engineering dollars for the Contract Task Order expended to date is approximately 78 percent. The present accelerated work load is expected to continue, with emphasis on the system design and final report.

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